

SPECIFICATION FOR APPROVAL

CUSTOMER'S APPROVAL CHOP	
Approval's condition:	_____
Approved date:	_____

KINDLY RETURN A SET WITH YOUR COMPANY'S OFFICIAL
STAMP ON APPROVAL OF THIS ITEM

CUSTOMER'S NAME:

CUSTOMER'S MODEL NO. :

CUSTOMER'S PART NO. :

DESCRIPTION:

5G n77 15.9mm DR Filter

Semitel'S MODEL NO. :

SE8R3950B500_15.9_044

VERSION:

03

DATE:

2025/9/1

Attachments:

- ☐ Product specification
- ☐ Sample Qty.:
- ☐ Test data

Prepared By	Checked By	Approved By
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Revision Record

Version	Revision Date	Before change	After change
01	2024/6/27	VSWR in BW 1.8:1	Return Loss 15dB min.
02	2025/2/12	Avg. Input Power 3W	Max input power 100W(C type)
	2025/2/19	Add informations	Packing and IR reflow information
03	2025/9/1	Update informations	1. Correct the n79 ceramic size from 15.9mm*3.5mm into 15.9mm*2.7mm. 2. In "4. Recommended PC Board Pattern", distance of shielding center to baseline is corrected from 1.15mm into 1.05mm. 3. Add new n77, n77us ceramic size 15.9mm*5.0mm, add n48+n77 part 4. Add "part positioning line" 5. In "4. Recommended PC Board Pattern", add a 0.5mm wide rectangle with blue outline to represent the area shielding will be positioned (± 0.15 mm tolerance) 6. In "4. Recommended PC Board Pattern", modified the recommended solder paste width from 0.4mm into 0.5mm to suit the area shielding will be positioned 7. Add dimension codes 8. Add dimension "A" (length of shielding) 9. The tolerance of dimension "D" is tightened from ± 0.30 mm into ± 0.15 mm 10. Add dimension "E" (distance of shielding center to baseline) 11. Add dimension "G" (width of ceramic) 12. Add 2 red dots to indicate the red glue for preventing shielding displacement during reflow 13. From the top view, mark the ceramic area not covered by shielding with shading

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1.FEATURES

- Small Size, Light weight
- SMT package soldering
- Ideal for Microwave telecommunication

2.SPECIFICATIONS

ELECTRICAL SPECIFICATIONS			
NO.	ITEM	SPEC	UNIT
1	Center Frequency [fo]	3950	MHz
2	Bandwidth [BW]	fo ±250[3700~4200]	MHz
3	Insertion in BW	2.0 max.@25℃	dB
		2.5max.@-40℃ to +105℃	dB
4	Ripple in BW	1.2 max.	dB
5	Return Loss in BW (S11, S22)	15 min.	dB
6	In/Out Impedance	50	Ω
7	Attenuation[Absolute Value]	25 min. @ DC~3640 MHz	dB
		25 min. @ 4260~6000 MHz	dB
8	Operation Temperature Range	-40℃ to +105℃	
9	Max Input Power	100W (C type)	
10	Measurement Semitel	44R	

^ All Parameters are measured with 50Ω system at +25℃ if not specified.

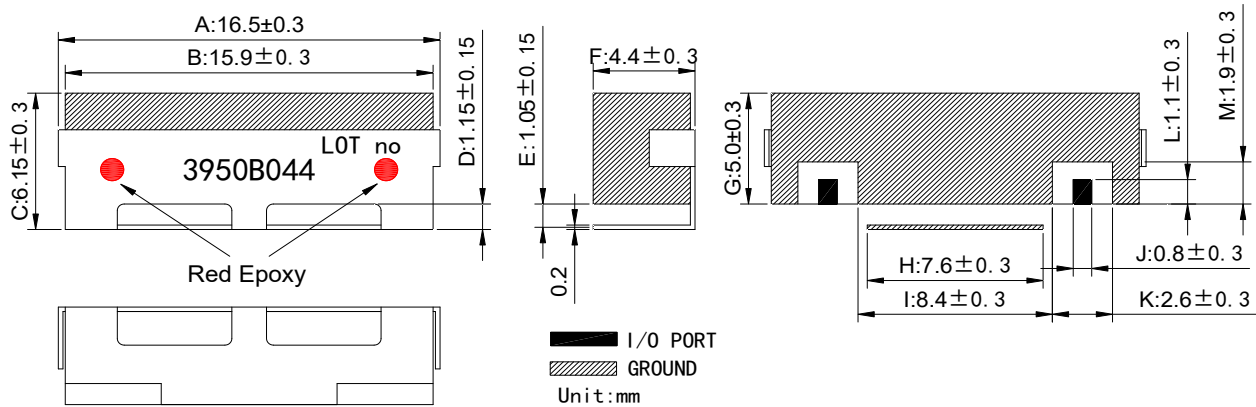
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3.OUTLINE DRAWING and Weight

3.1. Filter drawing

3.2. P/N SE8R3950B500_15.9_044 Marking information as
(marking showing 3950Bxxx, xxx=001~999 mean for project series code.)

3.3.Unit weight: 1.2g



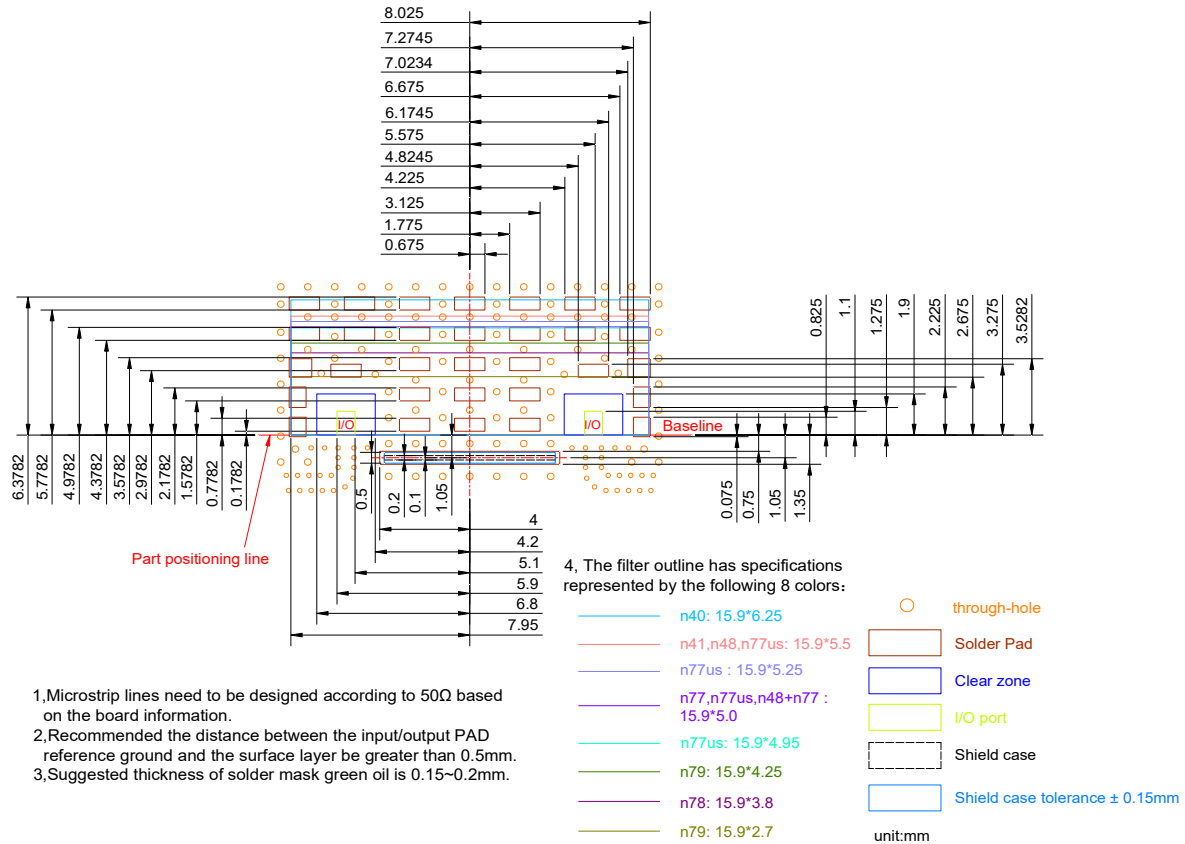
Notes:

- (1), A : Length of shielding
- (2), B : Length of ceramic
- (3), C : Width of product
- (4), D : Side of ceramic to outer side of shielding terminal distance
- (5), E : Side of ceramic to center of shielding terminal
- (6), F : Height of product
- (7), G : Width of ceramic
- (8), H : Length of shielding terminal contacting to PCB
- (9), I : Length of ceramic ground between I/O pins
- (10), J : Width of I/O pins
- (11), K : Width of product clearance area
- (12), L : Length of I/O pins
- (13), M : Length of product clearance area

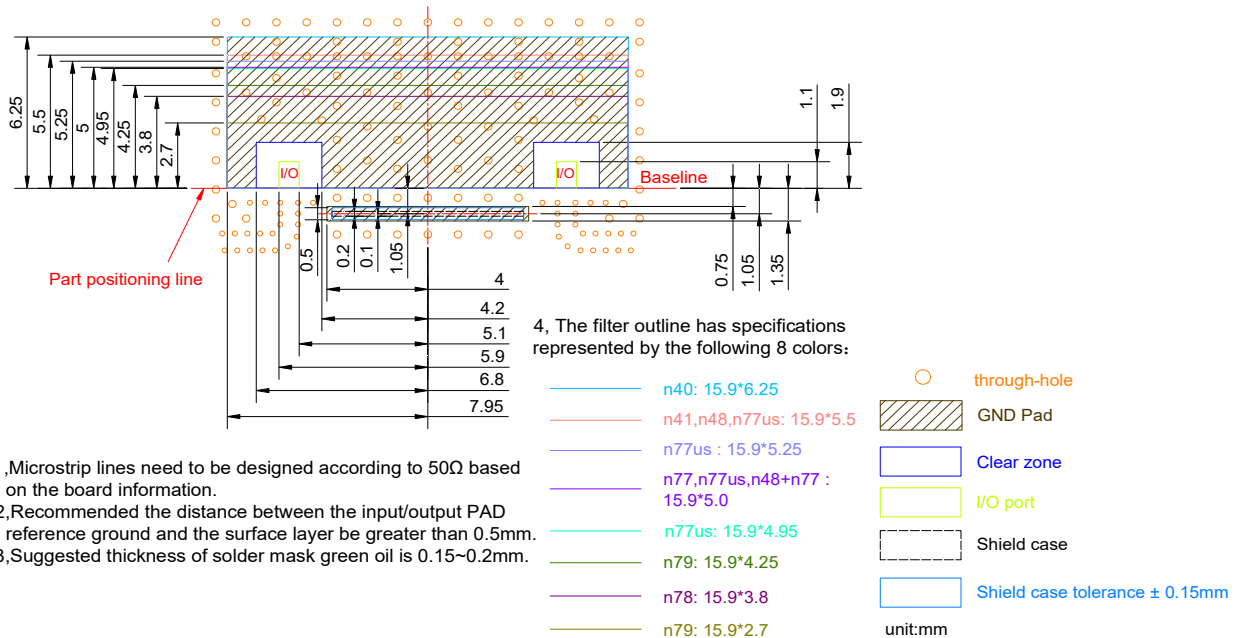
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4.RECOMMENDED PC BOARD PATTERN

4.1. multi-band reference layout pad

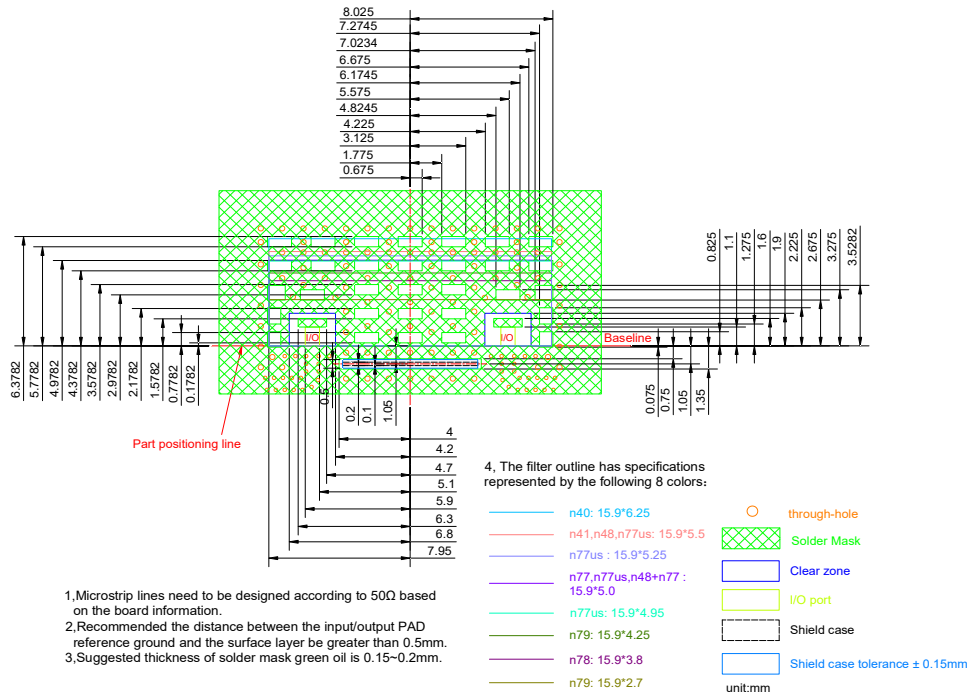


4.2. multi-bands bottom view

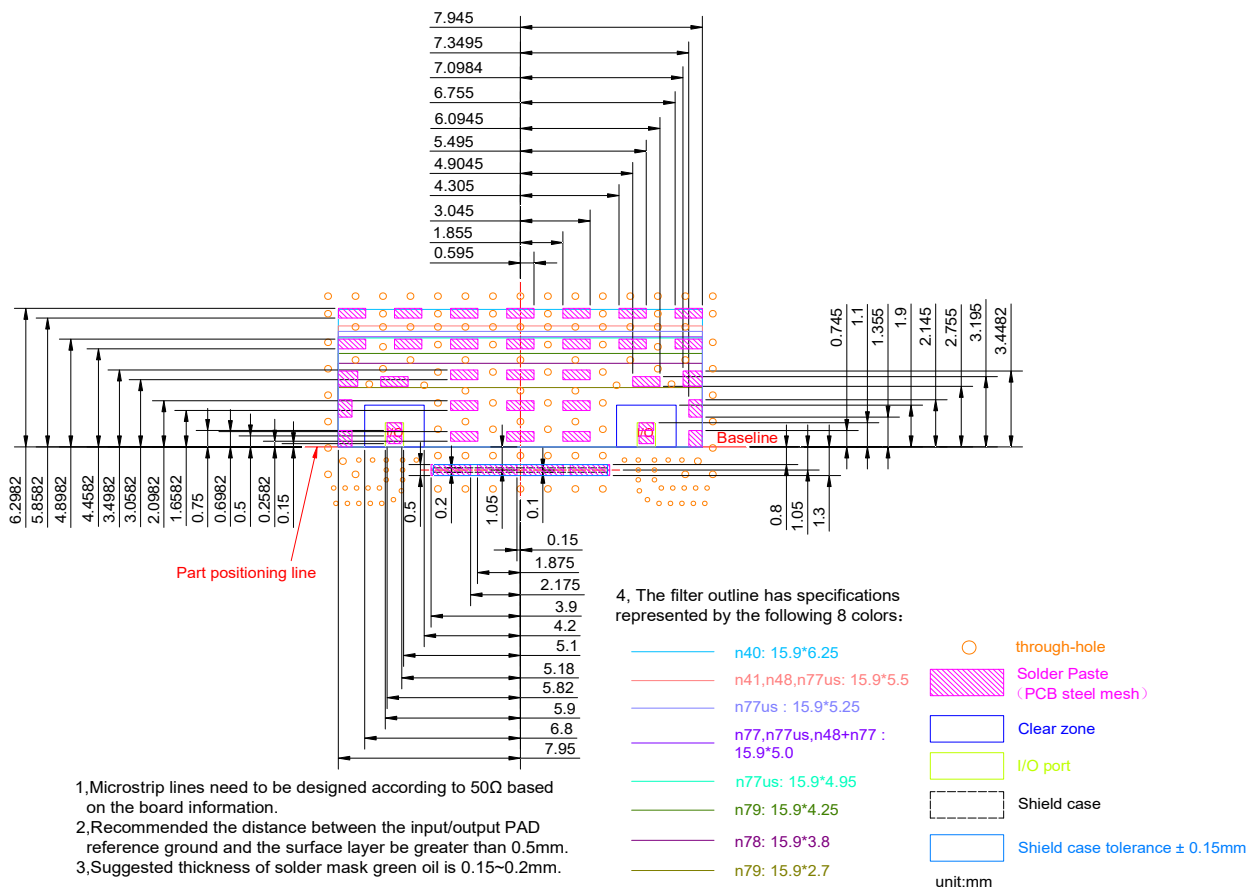


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4.3. multi-bands solder mask



4.4. multi- bands solder paste



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5.FREQUENCY RESPONSE

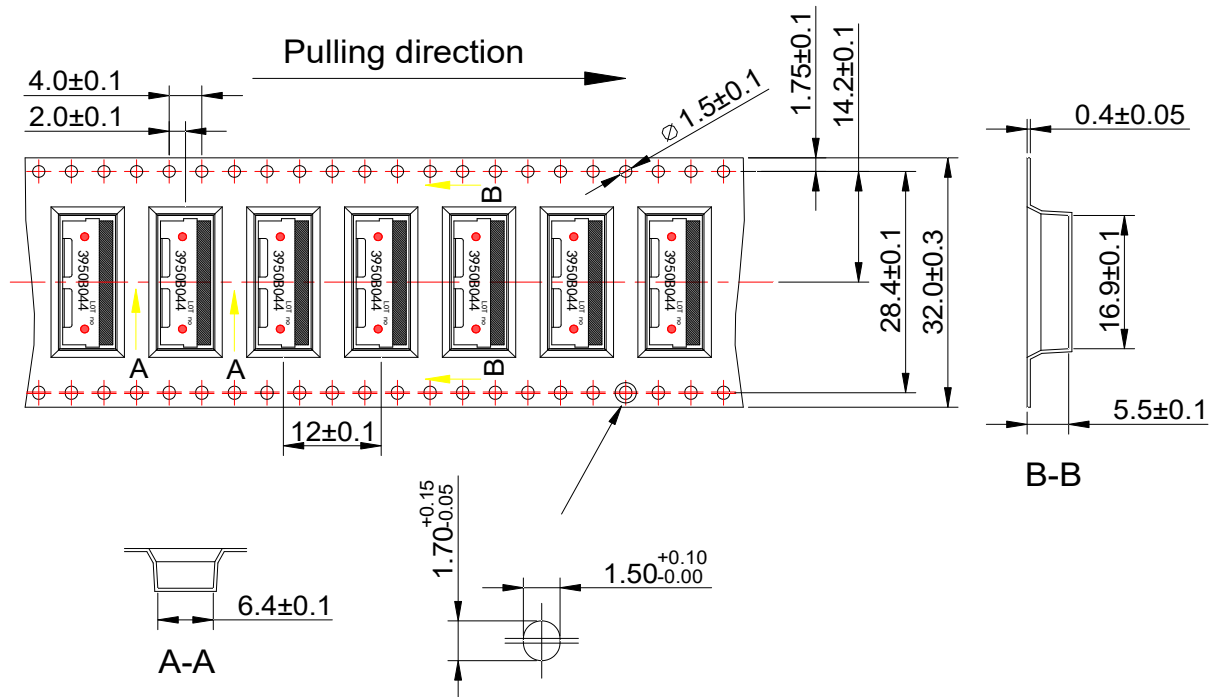


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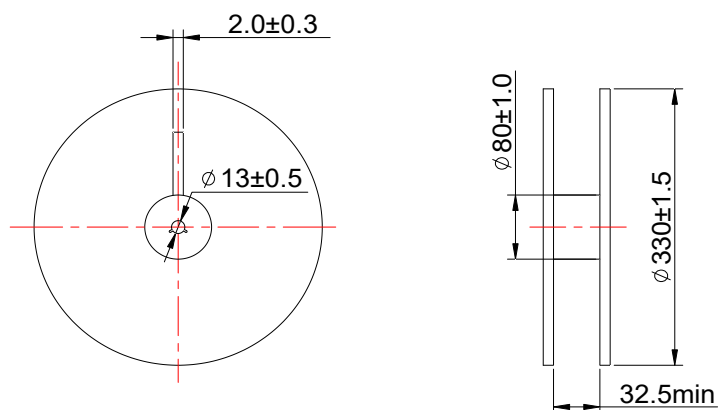
6. Tape and Reel Dimension

6.1. Quantity per reel:500pcs

6.2. Taping Dimension (Unit:mm)



6.3. Reel Dimension (Unit:mm)



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7.Environmental Test

7.1. Vibration Resist

The device should satisfy the electrical characteristics after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

7.2. Steady Damp Heat Test

The device should satisfy the electrical characteristics after exposed to the temperature $40\pm 2^{\circ}\text{C}$ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

7.3. High Temperature Storage

The device should satisfy the electrical characteristics after exposed to temperature $85\pm 5^{\circ}\text{C}$ for 96 ± 2 hours and 1~2 hours recovery time under normal temperature.

7.4. Low Temperature Storage

The device should also satisfy the electrical characteristics after exposed to the temperature $40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 96 ± 2 hours and to 2 hours recovery time under normal temperature.

7.5. Thermal Shock

The device should also satisfy the electrical characteristics after exposed to the low temperature -40°C and high temperature $+85^{\circ}\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

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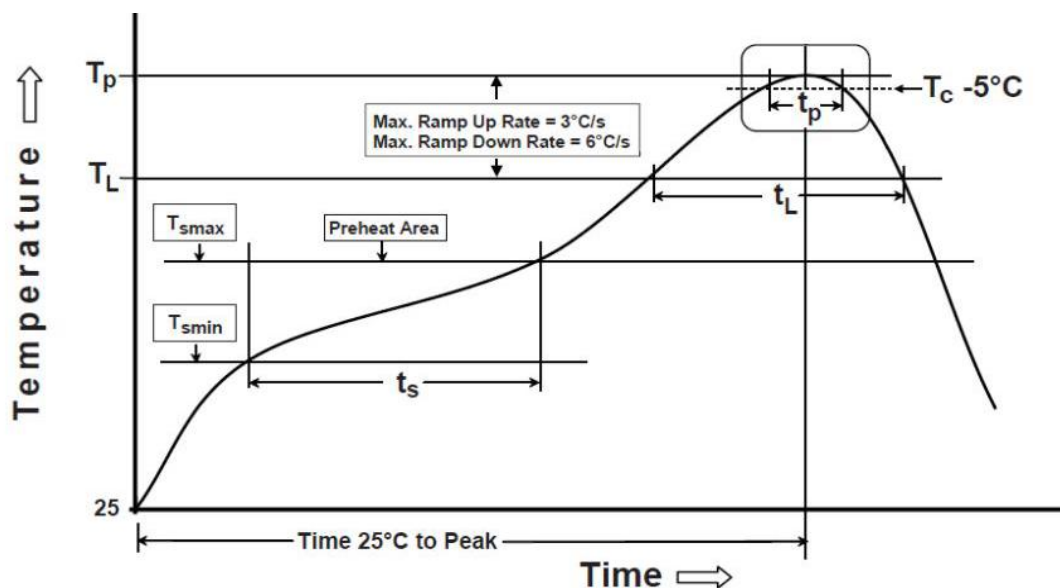
8.NOTICE

8.1. RoHS 2.0

8.2. MSL-2a

8.3. Reflow temperature recommendation

Profile feature		Pb-Free Assembly(SnAgCu)
PREHEAT	Temperature Min(Tsmin)	150°C
	Temperature Max(Tsmax)	200°C
	Time(ts) (from Tsmin to Tsmax)	60-120 seconds
RAMP-UP	Ramp-up rate (TL to TP)	3 °C/second max.
REFLOW	Liquidus Temperature(TL)	217°C
	Total Time maintained above TL (t L)	30-100 seconds
PEAK	Temperature(TP)	250°C
	Time (tp)	25 seconds
RAMP-DOWN	Ramp-down rate (TP to TL)	6 °C / second max.
Time (from 25°C to Peak Temperature) 25°C		8 minutes max.



This product may not be used in the following environments:

- 1.Ambient air containing corrosive gas and volatile or combustible gas.
- 2.In liquid and in environments with a high concentration of airborne particles.

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